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     (FILE 'HOME' ENTERED AT 17:44:38 ON 18 JAN 2011)

     FILE 'MEDLINE, CAPLUS, BIOSIS, SCISEARCH, LIFESCI' ENTERED AT 17:45:14 ON
     18 JAN 2011
L1       337539 S OSTEOBLAST OR MYOBLAST OR CHONDROCYTE OR ADIPOCYTE
L2        21589 S DEDIFFERENTIAT?
L3        53262 S MESENCHYMAL(3A)STEM(W)CELL
L4         2363 S L1(P)L2
L5          103 S L4(P)L3
L6           45 DUP REM L5 (58 DUPLICATES REMOVED)

=> d au ti so pi 20-45 l6

L6   ANSWER 20 OF 45     MEDLINE on STN
AU   Boeuf S; Steck E; Pelttari K; Hennig T; Buneb A; Benz K; Witte D; Sultmann
     H; Poustka A; Richter W
TI   Subtractive gene expression profiling of articular cartilage and
     mesenchymal stem cells: serpins as cartilage-relevant differentiation
     markers.
SO   Osteoarthritis and cartilage / OARS, Osteoarthritis Research Society,
     (2008 Jan) Vol. 16, No. 1, pp. 48-60.  Electronic Publication: 2007-07-02.
     Journal code: 9305697. ISSN: 1063-4584. L-ISSN: 1063-4584.

L6   ANSWER 21 OF 45     MEDLINE on STN                  DUPLICATE 10
AU   Khan I M; Gilbert S J; Singhrao S K; Duance V C; Archer C W
TI   Cartilage integration: evaluation of the reasons for failure of
     integration during cartilage repair. A review.
SO   European cells & materials, (2008) Vol. 16, pp. 26-39.  Electronic
     Publication: 2008-09-03. Ref: 108
     Journal code: 100973416. E-ISSN: 1473-2262. L-ISSN: 1473-2262.

L6   ANSWER 22 OF 45  CAPLUS  COPYRIGHT 2011 ACS on STN
IN   Son, Young Sook; Lee, Jung Sun; Lee, Eun Kyung; Lee, Jin Yeon
TI   Artificial cartilage containing chondrocytes obtained from costal
     cartilage and preparation process thereof
SO   PCT Int. Appl., 76 pp.
     CODEN: PIXXD2
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    -------------------    --------
PI   WO 2007052935        A1    20070510    WO 2006-KR4479         20061031
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN,
             KP, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,
             MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS,
             RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM
     KR 2007046768         A     20070503    KR 2006-106812         20061031
     KR 917422             B1    20090922
     EP 1954802            A1    20080813    EP 2006-812318         20061031
         R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
     US 20090228105        A1    20090910    US 2008-159204         20080625
     CN 101589139          A     20091125    CN 2006-80049510       20080627
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L6 ANSWER 23 OF 45 SCISEARCH COPYRIGHT (c) 2011 The Thomson Corporation on STN
AU Guldberg, Robert E. (Reprint); Coleman, Rhima M.; Case, Natasha D.
TI Hydrogel effects on bone marrow stromal cell response to chondrogenic growth factors
SO BIOMATERIALS, (APR 2007) Vol. 28, No. 12, pp. 2077-2086.
ISSN: 0142-9612.

L6 ANSWER 24 OF 45 MEDLINE on STN DUPLICATE 11
AU Lysy Philippe A; Smets Francoise; Sibille Catherine; Najimi Mustapha; Sokal Etienne M
TI Human skin fibroblasts: From mesodermal to hepatocyte-like differentiation.
SO Hepatology (Baltimore, Md.), (2007 Nov) Vol. 46, No. 5, pp. 1574-85.
Journal code: 8302946. E-ISSN: 1527-3350. L-ISSN: 0270-9139.

L6 ANSWER 25 OF 45 CAPLUS COPYRIGHT 2011 ACS on STN
AU Diaz-Romero, Jose; Nesic, Dobrila; Grogan, Shawn Patrick; Heini, Paul; Mainil-Varlet, Pierre
TI Immunophenotypic changes of human articular chondrocytes during monolayer culture reflect bona fide dedifferentiation rather than amplification of progenitor cells
SO Journal of Cellular Physiology (2007), Volume Date 2008, 214(1), 75-83
CODEN: JCLLAX; ISSN: 0021-9541

L6 ANSWER 26 OF 45 CAPLUS COPYRIGHT 2011 ACS on STN
AU Chen, Guoping; Kawazoe, Naoki; Tateishi, Tetsuya; Tanaka, Junzo
TI Control of cell functions by hybrid biodegradable polymer scaffolds
SO Materials Integration (2007), 20(11), 8-13
CODEN: MINTFB; ISSN: 1344-7858

L6 ANSWER 27 OF 45 SCISEARCH COPYRIGHT (c) 2011 The Thomson Corporation on STN
AU Zheng M H (Reprint); Lin Z; Willers C; Xu J A
TI The chondrocyte: Biology and clinical application
SO TISSUE ENGINEERING, (JUL 2006) Vol. 12, No. 7, pp. 1971-1984.
ISSN: 1076-3279.

L6 ANSWER 28 OF 45 SCISEARCH COPYRIGHT (c) 2011 The Thomson Corporation on STN
AU Nagashima H (Reprint); Shimada A; Tomii R; Kano K
TI Transplantation and differentiation of donor cells in the cloned pigs
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (2 JUN 2006) Vol. 344, No. 2, pp. 455-462.
ISSN: 0006-291X.

L6 ANSWER 29 OF 45 CAPLUS COPYRIGHT 2011 ACS on STN DUPLICATE 12
AU Sakuma, Takahiro; Matsumoto, Taro; Kano, Koichirou; Takahashi, Satoru; Muishima, Hideo
TI Dedifferentiated fat cells can differentiate into bladder smooth muscle cells in vitro and in vivo
SO Nichidai Igaku Zasshi (2006), 65(6), 382-387
CODEN: NICHAS; ISSN: 0029-0424

L6 ANSWER 30 OF 45 MEDLINE on STN DUPLICATE 13
AU Goessler Ulrich Reinhart; Bieback Karen; Bugert Peter; Heller Tobias; Sadick Haneen; Hormann Karl; Riedel Frank
TI In vitro analysis of integrin expression during chondrogenic differentiation of mesenchymal stem cells
and chondrocytes upon dedifferentiation in cell

culture.
SO International journal of molecular medicine, (2006 Feb) Vol. 17, No. 2, pp. 301-7.
Journal code: 9810955. ISSN: 1107-3756. L-ISSN: 1107-3756.

L6 ANSWER 31 OF 45 MEDLINE on STN DUPLICATE 14
AU Goessler U R; Bugert P; Bieback K; Bag S; Sadick H; Kluter H; Hormann K; Riedel F
TI [A comparison of the gene expression patterns of human chondrocytes and chondrogen differentiated mesenchymal stem cells for tissue engineering]. Vergleich der Genexpressionsmuster humaner Chondrozyten und chondrogen differenzierter mesenchymaler Stammzellen fur das Tissue-Engineering.
SO HNO, (2006 Apr) Vol. 54, No. 4, pp. 258-66.
Journal code: 2985099R. ISSN: 0017-6192. L-ISSN: 0017-6192.

L6 ANSWER 32 OF 45 BIOSIS COPYRIGHT (c) 2011 The Thomson Corporation on STN
AU Tanaka, Toru [Reprint Author]; Sato, Hiroko; Doi, Hiroshi; Shimizu, Takehisa; Iso, Tatsuya; Kurabayashi, Masahiko
TI Cbfa1 is involved in arteriosclerosis formation by promoting phenotypic conversion of vascular smooth muscle cells.
SO Circulation, (OCT 31 2006) Vol. 114, No. 18, Suppl. S, pp. 185.
Meeting Info.: 79th Annual Scientific Session of the American-Heart-Association. Chicago, IL, USA. November 12 -15, 2006. Amer Heart Assoc.
CODEN: CIRCAZ. ISSN: 0009-7322.

L6 ANSWER 33 OF 45 MEDLINE on STN DUPLICATE 15
AU Schumann D; Kujat R; Nerlich M; Angele P
TI Mechanobiological conditioning of stem cells for cartilage tissue engineering.
SO Bio-medical materials and engineering, (2006) Vol. 16, No. 4 Suppl, pp. S37-52. Ref: 172
Journal code: 9104021. ISSN: 0959-2989. L-ISSN: 0959-2989.

L6 ANSWER 34 OF 45 MEDLINE on STN DUPLICATE 16
AU Diaz-Romero Jose; Gaillard Jean Philippe; Grogan Shawn Patrick; Nesic Dobrila; Trub Thomas; Mainil-Varlet Pierre
TI Immunophenotypic analysis of human articular chondrocytes: changes in surface markers associated with cell expansion in monolayer culture.
SO Journal of cellular physiology, (2005 Mar) Vol. 202, No. 3, pp. 731-42.
Journal code: 0050222. ISSN: 0021-9541. L-ISSN: 0021-9541.

L6 ANSWER 35 OF 45 CAPLUS COPYRIGHT 2011 ACS on STN
AU Xu, Jianzhong; Fan, Dongwei; Zhang, Wenxia
TI Collagen II affects the adhesion and differentiation of the induced autologous mesenchymal stem cells on PLGA
SO Zhengzhou Daxue Xuebao, Yixueban (2005), 40(3), 424-426
CODEN: ZDXYBA; ISSN: 1671-6825

L6 ANSWER 36 OF 45 MEDLINE on STN DUPLICATE 17
AU Steck Eric; Bertram Helge; Abel Rainer; Chen Bohua; Winter Anja; Richter Wiltrud
TI Induction of intervertebral disc-like cells from adult mesenchymal stem cells.
SO Stem cells (Dayton, Ohio), (2005 Mar) Vol. 23, No. 3, pp. 403-11.
Journal code: 9304532. ISSN: 1066-5099. L-ISSN: 1066-5099.

L6 ANSWER 37 OF 45 MEDLINE on STN DUPLICATE 18
AU Goessler Urlich Reinhart; Bugert Peter; Bieback Karen; Deml Moritz; Sadick Haneen; Hormann Karl; Riedel Frank

TI In-vitro analysis of the expression of TGFbeta -superfamily-members during chondrogenic differentiation of mesenchymal stem cells and chondrocytes during dedifferentiation in cell culture.
SO Cellular & molecular biology letters, (2005) Vol. 10, No. 2, pp. 345-62. Journal code: 9607427. ISSN: 1425-8153. L-ISSN: 1425-8153.

L6 ANSWER 38 OF 45 CAPLUS COPYRIGHT 2011 ACS on STN
AU Diaz-Romero, Jose; Gaillard, Jean Philippe; Grogan, Shawn Patrick; Nesic, Dobrila; Trub, Thomas; Mainil-Varlet, Pierre
TI Immunophenotypic analysis of human articular chondrocytes: changes in surface markers associated with cell expansion in monolayer culture
SO Journal of Cellular Physiology (2004), Volume Date 2005, 202(3), 731-742 CODEN: JCLLAX; ISSN: 0021-9541

L6 ANSWER 39 OF 45 MEDLINE on STN DUPLICATE 19
AU de la Fuente Ricardo; Abad Jose Luis; Garcia-Castro Javier; Fernandez-Miguel Gemma; Petriz Jordi; Rubio Daniel; Vicario-Abejon Carlos; Guillen Pedro; Gonzalez Manuel A; Bernad Antonio
TI Dedifferentiated adult articular chondrocytes: a population of human multipotent primitive cells.
SO Experimental cell research, (2004 Jul 15) Vol. 297, No. 2, pp. 313-28. Journal code: 0373226. ISSN: 0014-4827. L-ISSN: 0014-4827.

L6 ANSWER 40 OF 45 SCISEARCH COPYRIGHT (c) 2011 The Thomson Corporation on STN
AU Hering T M (Reprint); Kazmi N H; Huynh T D; Kollar J; Xu L; Hunyady A B; Johnstone B
TI Characterization and chondrocyte differentiation stage-specific expression of KRAB zinc-finger protein gene ZNF470
SO EXPERIMENTAL CELL RESEARCH, (10 SEP 2004) Vol. 299, No. 1, pp. 137-147. ISSN: 0014-4827.

L6 ANSWER 41 OF 45 MEDLINE on STN DUPLICATE 20
AU Aigner Thomas; Dudhia Jayesh
TI Genomics of osteoarthritis.
SO Current opinion in rheumatology, (2003 Sep) Vol. 15, No. 5, pp. 634-40. Ref: 66
Journal code: 9000851. ISSN: 1040-8711. L-ISSN: 1040-8711.

L6 ANSWER 42 OF 45 MEDLINE on STN DUPLICATE 21
AU Imabayashi Hideaki; Mori Taisuke; Gojo Satoshi; Kiyono Tohru; Sugiyama Tomoyasu; Irie Ryotaro; Isogai Takao; Hata Jun-ichi; Toyama Yoshiaki; Umezawa Akihiro
TI Redifferentiation of dedifferentiated chondrocytes and chondrogenesis of human bone marrow stromal cells via chondrosphere formation with expression profiling by large-scale cDNA analysis.
SO Experimental cell research, (2003 Aug 1) Vol. 288, No. 1, pp. 35-50. Journal code: 0373226. ISSN: 0014-4827. L-ISSN: 0014-4827.

L6 ANSWER 43 OF 45 MEDLINE on STN DUPLICATE 22
AU Tagami Motoki; Ichinose Shizuko; Yamagata Kazuo; Fujino Hideaki; Shoji Satoshi; Hiraoka Masayasu; Kawano Seiko
TI Genetic and ultrastructural demonstration of strong reversibility in human mesenchymal stem cell.
SO Cell and tissue research, (2003 Apr) Vol. 312, No. 1, pp. 31-40. Electronic Publication: 2003-03-12.
Journal code: 0417625. ISSN: 0302-766X. L-ISSN: 0302-766X.

L6 ANSWER 44 OF 45 MEDLINE on STN DUPLICATE 23
AU Robinson D; Ash H; Yayon A; Nevo Z; Aviezer D

TI Characteristics of cartilage biopsies used for autologous chondrocytes transplantation.
SO Cell transplantation, (2001 Mar-Apr) Vol. 10, No. 2, pp. 203-8.
Journal code: 9208854. ISSN: 0963-6897. L-ISSN: 0963-6897.

L6 ANSWER 45 OF 45 MEDLINE on STN DUPLICATE 24
AU Sparks R L; Seibel-Ross E I; Wier M L; Scott R E
TI Differentiation, dedifferentiation, and transdifferentiation of BALB/c 3T3 T mesenchymal stem cells: potential significance in metaplasia and neoplasia.
SO Cancer research, (1986 Oct) Vol. 46, No. 10, pp. 5312-9.
Journal code: 2984705R. ISSN: 0008-5472. L-ISSN: 0008-5472.

=> d ab 41-45 l6

L6 ANSWER 41 OF 45 MEDLINE on STN DUPLICATE 20
AB PURPOSE OF REVIEW: This review addresses the progress in three major fields of "genomics of osteoarthritis" over the past year: genetic alterations thought to be important for the initiation and progression of osteoarthritis, differential gene expression analysis, and functional genomics of osteoarthritis. RECENT FINDINGS: Distinct genetic risk factors may predispose different joint sites to osteoarthritis, and although clear loci for susceptibility genes for common osteoarthritis have yet to emerge from the epidemiological studies, new approaches are narrowing down known loci. The search for specific genes using cDNA array technology has further demonstrated its potential in arthritis research as a powerful tool that could further provide biological insights into disease mechanisms, osteoarthritis polymorphic subtypes, the molecular validation of animal models, and the monitoring of drug activity on gene expression levels. Gene expression analysis has further characterized the striking shift in the gene expression pattern during " dedifferentiation" of chondrocytes in vitro as well as added depth to the phenotype of differentiated versus undifferentiated mesenchymal stem cells. Several new molecules potentially relevant to the disease process were identified, among them beta2-microglobulin (B2M), clusterin, and chitinase-like molecule 2. SUMMARY: Functional genomic approaches will in the future allow to complement traditional biochemistry and molecular biology. Although there are limitations to cDNA array technology, "molecular portraits" of osteoarthritic chondrocytes in vivo and in vitro can be produced to analyze whole or large biologic systems rather than just single aspects of it. This will stimulate the testing of new markers, which are needed for the diagnosis and monitoring of osteoarthritis.

L6 ANSWER 42 OF 45 MEDLINE on STN DUPLICATE 21
AB Characterization of dedifferentiated chondrocytes (DECs) and mesenchymal stem cells capable of differentiating into chondrocytes is of biological and clinical interest. We isolated DECs and bone marrow stromal cells (BMSCs), H4-1 and H3-4, and demonstrated that the cells started to produce extracellular matrices, such as type II collagen and aggrecan, at an early stage of chondrosphere formation. Furthermore, cDNA sequencing of cDNA libraries constricted by the oligocapping method was performed to analyze difference in mRNA expression profiling between DECs and marrow stromal cells. Upon redifferentiation of DECs, cartilage-related extracellular matrix genes, such as those encoding leucine-rich small proteoglycans, cartilage oligomeric matrix protein, and chitinase 3-like 1 (cartilage glycoprotein-39), were highly expressed. Growth factors such as FGF7 and CTGF were detected at a high frequency in the growth stage of monolayer stromal cultures. By combining the expression profile and flow cytometry,

we demonstrated that isolated stromal cells, defined by CD34(-), c-kit(-), and CD140alpha(- or low), have chondrogenic potential. The newly established human mesenchymal cells with expression profiling provide a powerful model for a study of chondrogenic differentiation and further understanding of cartilage regeneration in the means of redifferentiated DECs and BMSCs.

L6 ANSWER 43 OF 45 MEDLINE on STN DUPLICATE 22
AB We examined human bone marrow mesenchymal stem cells by applying real-time quantitative polymerase chain reaction (PCR) (RT-PCR) technology and electron-microscopic techniques. Our RT-PCR demonstrated that the values of peroxisome proliferation-activated receptor gamma2 (PPARgamma2) and lipoprotein lipase (LPL) mRNA dramatically increased according to adipogenic stimulation. The expressions of both PPARgamma2 and LPL mRNA were significantly reduced (P<0.01) and almost disappeared after stimulation had ceased. The expressions of both genes, however, increased again by stimulation even though the cells were in a dedifferentiated state for a month. In the ultrastructural study, over 80% of the cells proceeded into morphologically well-developed adipocytes at the 12th day of induction/maintenance which were packed with lipid droplets and clusters. In the next process these lipid products were excreted from the cell bodies and the peripheral small parts containing numerous droplets were torn from the greater parts, which stuck tightly to each other and adhered to culture dishes. Adipocytes were not detected in the culture media during the final stage. The total cell number was equal to and over 90% of the cells dedifferentiated into fibroblast-like stem cells during the final maintenance period of 1 month. Furthermore the dedifferentiated cells quickly differentiated again into adipocytes by stimulation even if they were quiescent for 1 month. Thus we conclude that mesenchymal stem cells have strong reversibility from both the genetic and morphological points of view.

L6 ANSWER 44 OF 45 MEDLINE on STN DUPLICATE 23
AB Biopsies removed from 57 patients considered for cartilage transplantation were grown at CTI Ltd. (47 biopsies) and at Tel Aviv University (10 biopsies). Tissue processing took place in dedicated laboratories. Explant cultures allowed cell number expansion. Fifty-four out of 57 biopsies grew cells. Fanning out of the cells began after 5-15 days in culture. Two passages later, cell numbers in the 10(7) range were achieved. Cells from all cultures expressed mRNA of aggrecan and link protein but not of alkaline phosphatase. Histochemical stains such as alcian blue pH 1 were negative in sparse monolayer cultures, but positive in pellet cultures. Immunohistochemistry demonstrated expression of collagen type I in monolayer cultures, switching to collagen type II in micromass cultures. Fibroblast growth factor receptor 3, a recently described characteristic receptor of precartilaginous cells, was expressed in monolayers and disappeared in micromass cultures. In conclusion, explants of articular chondrocytes cultured in vitro consistently yield monolayer cultures. The cells appear to revert to dedifferentiated chondrocytes, expressing a mesenchymal stem cell protein profile. Simultaneously, these cells regained their capacity to proliferate. Cultures held as micromass allowed reexpression of the differentiated phenotype traits.

L6 ANSWER 45 OF 45 MEDLINE on STN DUPLICATE 24
AB The expression of defects in the control of cellular differentiation is thought to be of etiological significance in the early stages of carcinogenesis. This possibility is supported by a variety of

experimental studies including those that have established that metaplastic changes in cells can represent preneoplastic lesions in vivo. To evaluate this question in greater detail, we have used 3T3 T mesenchymal stem cells as a model system.
These cells express certain characteristics of preneoplastic cells even though they can regulate their proliferation and even though they can undergo nonterminal and terminal differentiation into adipocytes
. For example, they are immortal and aneuploid, and they show a proclivity to undergo spontaneous or induced neoplastic transformation compared to normal human cells. The question we sought to answer in the current experiments concerns whether predifferentiation growth arrest and/or nonterminal differentiation in such preneoplastic cells is completely reversible or whether these processes induce the expression of the new stable program that limits the cells' proliferative potential and reduces the cells' subsequent differentiation potential in a manner comparable to that which is thought to occur in normal stem cells. The results show that arrest at both the predifferentiation state and at the nonterminal differentiation state is a completely reversible phenomenon that does not limit the cells' subsequent growth or differentiation potential. In fact, the results show that, when nonterminally differentiated 3T3 T adipocytes are induced to dedifferentiate, they can subsequently redifferentiate into macrophages. We therefore suggest that preneoplasia as expressed in 3T3 T mesenchymal stem cells is associated with the expression of defects in the ability to integrally control cellular differentiation and proliferation. As a result, the data suggest that such cells express an increased proclivity to undergo metaplastic change and complete neoplastic transformation.